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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/582,637	10/20/2000	Sven-Rune Olofsson	194873US2PCT	7011

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EXAMINER
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TIEU, BINH KIEN

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 07/20/2006

31

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/582,637

Applicant(s)

OLOFSSON ET AL.

Examiner

BINH K. TIEU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34-63 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-63 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 05/30/2006 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 34-36, 38-39, 42, 46-51, 53 and 61-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US. Pat. #: 7,006,445) in view of Dresser (US Pat. #: 5,357,556) or Lechleider (US. Pat. #: 6,091,713) (*wherein Dresser and Lechleider references were previously cited*).

Regarding claims 34, 36 and 63, Cole et al. (Hereinafter, "Cole") teaches a test unit for injecting various test signals into the copper wiring and monitoring the response of the copper wiring (col.6, lines 33-47). Cole further teaches that the test unit is provided at the customer's premises and is used to monitoring the condition of the local copper wiring (see col.9, lines 34-46). Cole further teaches that a computer, such as computer 804 as shown in figure 8, may be installed with a communication upgrade package including the test unit or the test unit may included in a xDSL modem at the subscriber premises (see col.10, lines 33-65). After injected the test signals into the copper-wiring network, the test unit indicates or recommends that local splitters or filter are needed within the customer's premises (see col.9, line 62 through col.10, line 7 and col.11, lines 21-33). Cole further teaches the functions of the splitters and filter in col.8, lines 1-14. Cole finally teaches that the test unit transmits or injects the test signals in response to a test request signal from a service provider (see col.10, lines 2-4).

It should be further noticed that Cole teaches the computer and/or modem having the test unit installed thereon, may established a connection with a remote service provider (see col.11, lines 3-13) with provided physical location information as well as inherent Internet Protocol (IP)

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address via the Internet (see col.10, line 66 through col.11, line 2). Cole, however, fails to teach using a unique identity code received during testing and associated with a communication device to identify a loop being tested. It's notoriously well known in the art to use identification codes including ANI or CLI in identifying a subscriber loop, which is being tested to determine the quality of the loop/line and to make the necessary changes if needed.

Dresser teaches a system and method for telephone network testing comprising of a testing unit in (see Fig.3-6, col.5, lines 10-13, col.6, lines 37-44) with a serial number identifier or ID unit 18 which can be used to identify a testing unit.

Lechleider teaches generating a test signal any telephone device (102, col.4, lines 33-42) which goes off-hook from an on-hook state to generate a telephone call to a central station and also transmit caller ID or ANI information associated with the subscriber line (see col.5, lines 43-65, col.7, lines 23-47). The test signal would be analyzed by a qualification center or system (190 of Fig.1) in determining whether the line is capable of carrying or supporting digital signals.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of either one of the secondary references into that of Cole thus making it possible to identify a line, loop or circuit being tested, if any changes are to be made to the loop or line based on test results.

Regarding claim 35, the combination teaches a test signal specifically meant to determine the quality of a subscriber loop.

Regarding claim 36, the combination including Lechleider teaches using a test signal in performing a plurality of measurements, which can then be used in determining whether a line for instance is capable of carrying digital signals (see entire disclosure of Lechleider).

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Regarding claim 38, see the explanation as set forth in the rejection of claim 34.

Regarding claim 39, it would have been obvious to use any testing-signal, which can be used for digital testing of a loop or trunk in determining its quality.

Regarding claim 42, the combination teaches being able to go off-hook from an on-hook status to generate a remote call including a test signal in determining the quality of a subscriber loop (see Lechleider or Cole).

Regarding claim 49, see the explanation set forth in the rejection 34. Furthermore, the combination of Cole and Lechleider teaches the possibility of being able to assess the quality of a subscriber loop including loops capable of carrying digital signals. The user can request testing of a subscriber loop by activating a test telephone including the circuitry as taught by Cole from a customer premise (see configuration application program 807 installed in the computer 804) to a central office facility (also see Lechleider). Being able to test a subscriber loop by generating a test signal from a subscriber terminal to a CO (central office) or vice-versa from a central office to a subscriber terminal is notoriously well known.

Regarding claims 50-51 and 53, the combination including Lechleider or Cole teaches the possibility of being able to perform by any desired line test using a test signal.

Regarding claims 61-62, the combination including Lechleider teaches being able to assess and store characteristics associated with a subscriber loop for future reference based on a test signal received from a remote station.

5. Claims 40-41 and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US. Pat. #: 7,006,445) in view of Dresser (US Pat. #: 5,357,556) or Lechleider (US.

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Pat. #: 6,091,713) as applied to claim 34 above, and further in view of EP (0 790977 A2, *cited by applicants*).

Regarding claims 40-41 and 55-56, the combination teaches analyzing a power spectral density by fails to teach a series of sinusoidal signals of known amplitude, each signal in the series having a different frequency, the series spanning a frequency range for which a line is to be tested but EP '977 teaches a method of transmitting a signal with ADSL characteristics which would have a sinusoid form wherein its power density can be analyzed (see Figs. 5, 7, 9 and 11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of EP '977 into that of the combination thus making it possible to analyze features such as power spectral density associated with the sinusoidal signal.

6. Claims 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US. Pat. #: 7,006,445) in view of Dresser (US Pat. #: 5,357,556) or Lechleider (US. Pat. #: 6,091,713) as applied to claim 34 above, and further in view of Bingel (US. Pat. #: 6,014,425, *also cited in the previous Office Action*).

Regarding claims 44-45, the combination fails to teach the claimed subject matter but Bingel teaches an apparatus and method for qualifying telephones and other attacked equipment for optimum DSL operation by means of an ASIC (110 of Figs. 2 and 4-6).

Therefore, it would have been obvious to include the teaching of Bingel into that of the combination thus making it possible to minimize circuitry, an advantage associated with digital processing/testing means.

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7. Claims 37, 43, 52, 54 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US. Pat. #: 7,006,445) in view of Dresser (US Pat. #: 5,357,556) or Lechleider (US. Pat. #: 6,091,713) as applied to claim 34 above, and further in view of Winkler et al. (US. Pat. #: 5,870,451, *also cited in the previous Office Action*).

Regarding claims 37, 43, 52, 54 and 60, the combination fails to teach the claimed subject matter comprising of being able to use pulse test signals and testing including short-circuiting of a subscriber line.

Winkler et al. (Hereinafter, 'Winkler') teaches testing means which receives and stores unique code information (see col.16, line 56 through col.17) associated with measurements taken on a subscriber line.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Winkler into that of the combination thus making it possible to identify a line, loop or circuits being tested, if any changes are to be made to the loop or line based on test results by using any known testing methods.

8. Claims 37, 43, 52, 54 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US. Pat. #: 7,006,445) in view of Dresser (US Pat. #: 5,357,556) or Lechleider (US. Pat. #: 6,091,713) as applied to claim 34 above, and further in view of Kennedy et al. (US. Pat. #: 5,779,060 or Keefe et al. (US. Pat. #: 6,005,921) or Chan et al. (US. Pat. #: 5,974,115), *also cited in the previous Office Action*).

Regarding claims 57-59, the combination teaches being able to identify a testing unit based on a unique identifier transmitted with a test signal for instant but fails to teach being able



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to send a test signal request to a CO, a notoriously well method of testing a subscriber loop or terminal from a subscriber premises.

Kennedy or Keefe teaches a method of testing wherein a test signal can be generated at a subscriber premiere and sent to a CO for a desired test after which the CO can initiate a test back to the terminal based on receive identification information (see disclosure). Furthermore, the references teach being able to select from one of a plurality of test and performing the test based on the predetermined selection criterion.

Chan teaches a system and a method for testing subscriber lines and terminating equipment comprising of requesting a plurality of test after which a test can be performed on the line to determine the quality of the line in addition to services in (see col.8, lines 48-54) during a time interval after disconnection. Chan teaches sending caller identification information or ANI to a central office during a receipt of a test request signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of either of the third references namely; Kennedy or Keefe or Chan into that of the combination thus making it possible to determine the quality of a subscriber line or network services by testing the line as such.

### ***Response to Arguments***

9. Applicant's arguments along with amendments to claims 34 and 63 have been considered but are moot in view of the new ground(s) of rejection.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh K. Tieu whose telephone number is (571) 272-7510 and E-mail address: [BINH.TIEU@USPTO.GOV](mailto:BINH.TIEU@USPTO.GOV).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (571) 272-7499 and **IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.**

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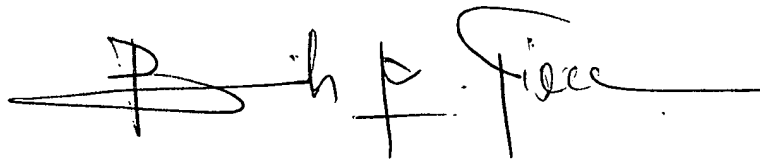
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**BINH TIEU  
PRIMARY EXAMINER**

Technology Division 2614

Date: July 14, 2006